

Application No.: 10/769,483
Amendment, dated October 5, 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1 (previously amended). A fluid irradiation apparatus for the modification of viruses
2 and bacteria, comprising:
3 a housing having an exterior side and an interior side, the interior side further defining an
4 enclosure;
5 an irradiation station affixed to the housing;
6 a cuvette positioned across the irradiation station;
7 at least two ultraviolet light sources positioned adjacent to the cuvette;
8 an ivac bottle for drawing and transporting fluid through the cuvette;
9 means for receiving the fluid transported and irradiated through the cuvette;
10 means for enclosing the cuvette and irradiation station when the fluid irradiation
11 apparatus is in use for minimizing the escape of ultraviolet light radiation; and
12 means for energizing the fluid irradiation apparatus.

1 Claim 2 (original). The fluid irradiation apparatus of Claim 1 wherein the cuvette is made of a
2 quartz crystal material.

1 Claim 3 (original). The fluid irradiation apparatus of Claim 1 wherein the cuvette is made of a
2 durable plastic material.

1 Claim 4 (original). The fluid irradiation apparatus of Claim 1 wherein the at least two ultraviolet
2 light sources are, when in use, positioned on opposite sides of the cuvette.

1 Claim 5 (original). The fluid irradiation apparatus of Claim 1 wherein one ultraviolet light source
2 is mounted in the enclosure and the other ultraviolet light source is mounted in a cover.

1 Claim 6 (original). The fluid irradiation apparatus of Claim 1 wherein the at least two ultraviolet
2 light sources are calibrated in the UVA, UVB, or UVC light transmission band widths.

1 Claim 7 (original). The fluid irradiation apparatus of Claim 6 wherein the at least two ultraviolet
2 light sources are calibrated between 40 and 400 nano meters.

1 Claim 8 (canceled). ~~The fluid irradiation apparatus of Claim 1 wherein the means for drawing and~~
2 ~~transporting fluid through the cuvette is by a peristaltic pump.~~

1 Claim 9. (canceled).

1 Claim 10 (original). The fluid irradiation apparatus of Claim 1 wherein the means for receiving
2 the fluid transported and irradiated through the cuvette is a bottle.

1 Claim 11 (original). The fluid irradiation apparatus of Claim 5 wherein the means for enclosing
2 the cuvette and irradiation station when the fluid irradiation apparatus is in use is the cover.

1 Claim 12 (original). The fluid irradiation apparatus of Claim 1 and further comprising an on/off
2 power switch, an on/off pump control switch, and an ultraviolet light control switch.

1 Claim 13 (presently amended). A fluid irradiation apparatus for the modification of viruses and
2 bacteria contained in fluid, comprising:

3 a housing having an exterior side and an interior side, the exterior side further defining an
4 aperture and the interior side further defining a hollow center;

5 a cuvette positioned across substantially the surface area of the aperture and aligned in a
6 substantially parallel relationship with the housing;

7 a first ultraviolet light source located within the hollow center of the interior side of the
8 housing and positioned parallel to the cuvette;

9 a cover having an exterior side and an interior side, the interior side further defining a
10 chamber;

11 a second ultraviolet light source located within the chamber;

12 ~~a lens for covering the second ultraviolet light source;~~

13 means for receiving the fluid transported through the cuvette;

14 means for transporting the fluid through the cuvette into the means for receiving the fluid;

15 means for returning the fluid in the opposite direction back through the cuvette from the
16 means for receiving the fluid;

17 whereby, the fluid transferred through the same cuvette is irradiated in at least two separate
18 instances by both the first and second ultraviolet light sources.

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1 Claim 14 (original). The fluid irradiation apparatus of Claim 13 and further comprising a means
2 for drawing the fluid through the cuvette.

1 Claim 15 (original). The fluid irradiation apparatus of Claim 13 and further comprising a means
2 for enclosing the cuvette when the fluid irradiation apparatus is in use.

1 Claim 16 (original). The fluid irradiation apparatus of Claim 13 and further comprising a means
2 for controlling the operation of the fluid irradiation apparatus.

1 Claim 17 (original). The fluid irradiation apparatus of Claim 13 and further comprising a faceplate
2 that is fitted within the aperture in the exterior side of the housing.

1 Claim 18. (canceled).

1 Claim 19 (original). The fluid irradiation apparatus of Claim 13 wherein the second ultraviolet
2 light source is positioned, when in use, on the opposite side of the cuvette from the first ultraviolet
3 light source.

1 Claim 20 (original). A method for modifying viruses and bacteria from fluid in the body,
2 comprising the steps of:

3 (a) providing a fluid irradiation apparatus consisting of a housing and an irradiation
4 station in the housing;

5 (b) removing fluid from the body and depositing the fluid into a conduit;

6 (c) transporting the removed fluid from the body along the conduit and into a cuvette;

7 (d) irradiating the removed fluid at the irradiation station within the cuvette by at least
8 two ultraviolet light sources;

9 (e) transporting the irradiated fluid from the cuvette along the conduit and depositing the
10 irradiated fluid into a container;

11 (f) removing the irradiated fluid from the container and depositing the fluid back into
12 the conduit;

13 (g) transporting the irradiated fluid back through the same conduit and back into the same
14 cuvette;

15 (h) irradiating the irradiated fluid within the cuvette by the at least two ultraviolet light
16 sources to produce a second irradiated fluid;

17 (i) transporting the second irradiated fluid back through the same conduit from the
18 cuvette;

19 (j) returning the second irradiated fluid into the body.

1 Claim 21 (original). The method of Claim 20 and the additional step of directing ultraviolet
2 radiation from the at least two ultraviolet light sources at the cuvette.

1 Claim 22 (original). A method for modifying viruses and bacteria from fluid in the body,
2 comprising the steps of:

- 3 (a) transporting fluid through a conduit into a cuvette;
- 4 (b) providing a plurality of ultraviolet light sources at the cuvette;
- 5 (c) irradiating the fluid in the cuvette as it passes the plurality of ultraviolet light sources
6 to produce a first irradiated fluid;
- 7 (d) reversing the directional flow of the fluid to pass back through the same cuvette; and
- 8 (e) irradiating the first irradiated fluid as it passes the plurality of ultraviolet light sources
9 a second time to produce a second irradiated fluid.